

## ABSTRACT

An epitaxial growth method forming a semiconductor thin film including a heterojunction of a group III-V compound semiconductor by means of molecular beam epitaxy. The method is configured to include: a first step of irradiating a molecular beam of at least one of group III elements and a molecular beam of a first group V element to form a first compound semiconductor layer; a second step of stopping the irradiation of the molecular beam of the group III element and the molecular beam of the first group V element to halt growth until an amount of the first group V element supplied is reduced to 1/10 or less of a supply of the first group V element in the first step; and a third step of irradiating a molecular beam of at least one of the group III elements and a molecular beam of a second group V element to form a second compound semiconductor layer, which is different from the first compound semiconductor, on the first compound semiconductor layer.